

STN

Search History

(HCAPLUS, INSPEC, JAPPO, WSPATALL)

1/2/2008

=> d his

(FILE 'HOME' ENTERED AT 14:46:22 ON 02 JAN 2008)

FILE 'HCAPLUS' ENTERED AT 14:47:10 ON 02 JAN 2008

FILE 'HCAPLUS' ENTERED AT 14:47:36 ON 02 JAN 2008

L1 2445 S (CZ OR CZOCHRALSKI) (8A) (APPARATUS? OR MECHANISM# OR DEVICE# O
 L2 279968 S (SINGLE(4A)CRYSTAL? OR MONO(4A)CRYSTAL?)
 L3 188441 S (WIRE# OR PULL?(2W)WIRE#)
 L4 199166 S (COLLAR# OR COVER# OR BAFFLE#)
 L5 836015 S (PLURAL? OR MULTIP?)

=> s 12 and 13 and 14 and 15

L6 0 L2 AND L3 AND L4 AND L5

=> s 12 and 13 and 14

L7 28 L2 AND L3 AND L4

=> s 11 and 17

L8 3 L1 AND L7

=> d 18 1-3 abs, bib

L8 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The invention provides a rotating mechanism for growth of artificial crystals, especially semiconductor silicon single crystal and germanium single crystal. The title rotating mechanism comprises a base seat, a hollow rotation axis disposed on the base seat, a bearing seat, a pressing cover, a fastening nut, bearings, and a fixing nut for mounting the rotation axis on the base seat. The rotating mechanism further comprises an elec. brush ring for signal transmission arranged on the rotation axis and between two supporting bearings, a centering sleeve installed on the lower part of the rotation axis for stable rotation of the artificial crystals, a mechanism for driving rotation of the rotation axis, and a flexible steel-wire shaft passing through the central hole of the rotation axis and used for holding the artificial crystal. The inventive rotating mechanism can increase stability and reliability of rotary movement of artificial crystal, and is convenient for installation and maintenance. The rotating mechanism is widely used for growth of artificial crystals.

AN 2007:1309622 HCAPLUS

TI Rotating mechanism for growth of artificial crystals

IN Feng, Jinsheng; Li, Liuchen

PA Jiangsu Huasheng Fine Ceramic Technology Co., Ltd., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 101070609	A	20071114	CN 2006-10040115	20060508
PRAI	CN 2006-10040115		20060508		

L8 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN

AB A covering plate is arranged which closes and opens an entrance of a valve container between a lower chamber and an upper chamber, the lower chamber containing a crucible and the upper chamber containing a wire to pull a single crystal. The covering plate is contained in a circle-shaped space portion within a wall by closing and opening means. The covering plate closes the entrance so that an isolation valve is protected. Since at the time of opening the entrance the covering plate is contained within the wall without contacting with the wall, the fall of

dusts produced by peeling off of a film deposited on the wall can be prevented. Also, the covering plate is contained in a circle-shaped space portion without exposing the front and back surfaces thereof to the air.

AN 1997:15242 HCAPLUS
DN 126:53144
TI Single crystal pulling apparatus
IN Iino, Eiichi; Takano, Kiyotaka; Kimura, Masanori; Yamagishi, Hirotooshi; Mizuishi, Koji
PA Shin-Etsu Handotai Company Limited, Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	EP 747514	A1	19961211	EP 1996-304265	19960607
	R: DE, FR, GB				
	JP 08337492	A	19961224	JP 1995-168164	19950610
	JP 2940439	B2	19990825		
	KR 214166	B1	19990802	KR 1996-19466	19960601
	US 5667588	A	19970916	US 1996-658275	19960605
PRAI	JP 1995-168164	A	19950610		

L8 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN
AB The apparatus has (1) a pulling shaft which is divided to an upper and a lower shaft connected to each other by a wire there between, and a means to lift the lower shaft, or (2) an upper shaft installed at the lower end of a weight sensor and a lower shaft installed on the upper end of a force bar (e.g., made from a C material) connected to each other by a wire, and a means to lift the force bar. A number of ceramic or stainless steel balls, or a guide collar from a C material may be placed between a guide shaft, which surrounds the upper and the lower shaft, the wire, and the force bar, and the force bar. A long crystal can be grown without increase of the total height of the apparatus

AN 1996:457854 HCAPLUS
DN 125:100869
TI Czochralski apparatus
IN Umeki, Toshiro
PA Komatsu Denshi Kinzoku KK, Japan; Komatsu Electric Metal Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 08119790	A	19960514	JP 1994-276000	19941014
	JP 3526927	B2	20040517		
PRAI	JP 1994-276000		19941014		

=>

=> d 17 1-28 abs,bib

L7 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The invention relates to methods for manufacturing semiconductor devices. Processes are disclosed for implementing suspended single crystal silicon nano wires (NWs) using a combination of anisotropic and isotropic etches and spacer creation for sidewall protection. The core dimensions of the NWs are adjustable with the integration sequences: they can be triangular, rectangular, quasi-circular, or an alternative polygonal shape. Depending on the length of the NWs, going from the sub-micron to millimeter range, the NWs may utilize support from anchors to the side, during certain processing steps. By changing the lithog. dimensions of the anchors compared to the NWs, the anchors may be reduced or eliminated during processing. The method covers, among other things, the integration of Gate-All-Around NW (GAA-NW) MOSFETs on a bulk semiconductor. The GAA structure may consist of a silicon core fabricated as specified in the invention, surrounded by any usable gate dielec., and finally by a gate material, such as polysilicon or metal. The source and drain of the GAA-NW may be connected to the bulk semiconductor to avoid self heating of the device over a wide range of operating conditions. The GAA-NW MOS capacitor can also be used for the integration of a Gate-All-Around optical phase modulator (GAA modulator). The working principle for the optical modulator is modulation of the refractive index by free carrier accumulation or inversion in a MOS capacitive structure, which changes the phase of the propagating light.

AN 2007:1476054 HCAPLUS

TI Fabrication of silicon nano wires and gate-all-around mos devices

IN Bouvet, Didier; Moselund, Kirsten; Ionescu, Mihai Adrian

PA Ecole Polytechnique Federale de Lausanne, Switz.

SO U.S. Pat. Appl. Publ., 9pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2007298551	A1	20071227	US 2007-705036	20070212
PRAI	WO 2006-IB50448	A	20060210		

L7 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The invention provides a rotating mechanism for growth of artificial crystals, especially semiconductor silicon single crystal and germanium single crystal. The title rotating mechanism comprises a base seat, a hollow rotation axis disposed on the base seat, a bearing seat, a pressing cover, a fastening nut, bearings, and a fixing nut for mounting the rotation axis on the base seat. The rotating mechanism further comprises an elec. brush ring for signal transmission arranged on the rotation axis and between two supporting bearings, a centering sleeve installed on the lower part of the rotation axis for stable rotation of the artificial crystals, a mechanism for driving rotation of the rotation axis, and a flexible steel-wire shaft passing through the central hole of the rotation axis and used for holding the artificial crystal. The inventive rotating mechanism can increase stability and reliability of rotary movement of artificial crystal, and is convenient for installation and maintenance. The rotating mechanism is widely used for growth of artificial crystals.

AN 2007:1309622 HCAPLUS

TI Rotating mechanism for growth of artificial crystals

IN Feng, Jinsheng; Li, Liuchen

PA Jiangsu Huasheng Fine Ceramic Technology Co., Ltd., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7pp.

CODEN: CNXXEV

DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 101070609	A	20071114	CN 2006-10040115	20060508
PRAI	CN 2006-10040115		20060508		

L7 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB Solution processable conductors, dielects. and semiconductors represent enabling materials for electronic circuits that can be fabricated on plastic sheets by continuous, high speed printing techniques. It is generally believed that these types of systems, which can cover large areas, will be important for new applications in consumer electronics. This talk describes the operational aspects of flexible transistors and circuits that use printable semiconductors based on ribbons and wires of single crystal silicon, gallium arsenide, indium phosphide and gallium nitride. Multilayer three dimensional circuit configurations, heterogeneously integrated systems, GHz switching speeds and mech. bendability as well as full stretchability represent a few of the unusual characteristics that can be achieved. These and other aspects, including the soft transfer printing techniques used to form the devices, will be discussed.

AN 2006:1071376 HCAPLUS

TI Some Recent Work on Flexible Electronics

AU Rogers, John A.

CS University of Illinois, Midland, MI, 48686, USA

SO Abstracts, 35th Northeast Regional Meeting of the American Chemical Society, Binghamton, NY, United States, October 5-7 (2006), NRM-213
Publisher: American Chemical Society, Washington, D. C.

CODEN: 69INQU

DT Conference; Meeting Abstract

LA English

L7 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB Solution processable conductors, dielects. and semiconductors represent enabling materials for electronic circuits that can be fabricated on plastic sheets by continuous, high speed printing techniques. It is generally believed that these types of systems, which can cover large areas, will be important for new applications in consumer electronics. This talk describes the operational aspects of flexible transistors and circuits that use printable semiconductors based on ribbons and wires of single crystal silicon, gallium arsenide, indium phosphide and gallium nitride. High mobilities, GHz switching speeds, mech. bendability and even full stretchability represent a few of the unusual characteristics that can be achieved in these systems. These and other aspects, including the soft lithog. printing techniques used to form the devices, will be discussed.

AN 2006:860960 HCAPLUS

TI Materials for high performance electronics on plastic and rubber substrates

AU Rogers, John A.

CS Materials Science and Engineering, University of Illinois, Urbana, IL, 61801, USA

SO Abstracts of Papers, 232nd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006 (2006), INOR-571 Publisher: American Chemical Society, Washington, D. C.

CODEN: 69IHRD

DT Conference; Meeting Abstract; (computer optical disk)

LA English

L7 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB A reflection-transmission LCD (Liquid Crystal Display) having a

single cell gap is provided to possess the same light efficiency in comparison with the reflection-transmission LCD having double cell gap. A liquid crystal layer is formed between an array substrate, as a lower substrate, and a color filter substrate, as an upper substrate. A TFT (Thin Film Transistor) is formed at the crossing point within a pixel defined by a gate wire toward the first direction and a data wire toward the second direction. An insulation film is formed on the entire surface of the substrate including a gate electrode. The first protective layer is formed on the TFT. A reflective plate is formed on a reflection portion within a pixel in the protective layer. The second protective layer is formed on the reflective plate and the first protective layer. A pixel electrode is formed on the second protective layer at every pixel and contacted with the TFT. In the color filter substrate, a black matrix are formed on a transparent substrate corresponding to the data wire of the array substrate. Red, green and blue color filters cover the black matrix and correspond to each pixel. An overcoat layer is formed on the entire surface of the substrate. A common electrode is formed on the entire surface of the substrate at the lower portion of the overcoat layer.

AN 2006:807827 HCAPLUS
 DN 146:35981
 TI Reflection-transmission LCD having a single cell gap
 IN Hong, Sun Gwang
 PA Lg.Philips Lcd Co., Ltd., S. Korea
 SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
 CODEN: KRXXA7
 DT Patent
 LA Korean
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2004104006	A	20041210	KR 2003-35352	20030602
PRAI	KR 2003-35352		20030602		

L7 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
 AB The cover plates are placed on both ends of a cylindrical single crystal ingot for prevention of its deformation under wire-saw cutting, wherein the cover plates have an almost rectangular shape comprising a longer side running in the cutting direction and a short side running in the direction orthogonal to the cutting direction. Preferably, the cover plates are made of glass, ceramics, C, or resin. Since the cover plates have small contact area to wire saws, their snapping is effectively suppressed. The cover plates are useful for manufacture of semiconductor wafers.

AN 2006:292034 HCAPLUS
 DN 144:341814
 TI Cover plates for cylindrical single crystal ingots under wire-saw cutting
 IN Nakajima, Akira
 PA Sumco Corporation, Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2006082211	A	20060330	JP 2004-272339	20040917
	US 7311101	B2	20071225	US 2005-226368	20050915
PRAI	JP 2004-272339	A	20040917		

L7 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
 AB Solution processable conductors, dielects. and semiconductors represent

enabling materials for electronic circuits that can be fabricated on plastic sheets by continuous, high speed printing techniques. It is generally believed that these types of systems, which can cover large areas, will be important for new applications in consumer electronics. This talk describes the operational aspects of flexible transistors and circuits that use printable semiconductors based on ribbons and wires of single crystal silicon, gallium arsenide, indium phosphide and gallium nitride, as well as aligned arrays of single walled carbon nanotubes. Optical transparency, GHz switching speeds and mech. stretchability represent a few of the unusual characteristics that can be achieved in these systems. These and other aspects, including the soft lithog. printing techniques used to form the devices, will be discussed.

AN 2006:247180 HCAPLUS
 TI Tubes, ribbons and wires for flexible electronics
 AU Rogers, John A.
 CS Materials Science and Engineering, University of Illinois, Urbana, IL, 61801, USA
 SO Abstracts of Papers, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006 (2006), IEC-169 Publisher: American Chemical Society, Washington, D. C.
 CODEN: 69HYEC
 DT Conference; Meeting Abstract; (computer optical disk)
 LA English

L7 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
 AB A hermetic package for electronic components which is made of metallic Si is disclosed. The package creates a cavity for receiving the electronic component, preferably a piezoelec. device, which provides a evacuated environment at $1 + 10^{-5}$ - $1 + 10^{-11}$ torr. In a 1st embodiment, the single crystal metallic Si is p-doped to make it elec. conductive, obviating the need for lead wires which could compromise the hermeticity of the package. Si-to-Si bonding is preferably accomplished using brazing of the cover to the base member using Au In eutectic alloy at 495°. A method of making a surface mountable electronic component having an internal hermetic environment is also described.

AN 2006:187769 HCAPLUS
 DN 144:245194
 TI Silicon package for piezoelectric device
 IN Ferreiro, Pablo; Martin, Kenneth
 PA Bliley Technologies Inc., USA
 SO U.S. Pat. Appl. Publ., 7 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2006043540	A1	20060302	US 2004-931663	20040901
	US 7061086	B2	20060613		
	US 7196405	B1	20070327	US 2005-156353	20050617
PRAI	US 2004-931663	A2	20040901		

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
 AB An SPM cantilever and a method of manufacturing the SPM cantilever. The SPM cantilever comprises a support part manufactured by processing a single crystal silicon wafer, a lever part formed to be extended from the support part, a probe disposed at the free end of the lever part, a graphite film coated to cover the probe formation side entire surfaces of the lever part and the entire part of the probe, and one thin wire formed of either of a carbon nanofiber (CNF), carbon nanotube

(CNT), and graphite nanofiber (GNF) formed by growing from the graphite film at the tip part of the probe.

AN 2005:1170933 HCAPLUS
DN 143:424245
TI Scanning probe microscope (SPM) cantilever and method of manufacturing same
IN Kitazawa, Masashi; Ota, Ryo; Tanemura, Masaki
PA Olympus Corporation, Japan; Nagoya Institute of Technology
SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005103648	A1	20051103	WO 2005-JP7946	20050420
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2005308675	A	20051104	JP 2004-129383	20040426
	EP 1742034	A1	20070110	EP 2005-734701	20050420
	R: DE, GB				
PRAI	JP 2004-129383	A	20040426		
	WO 2005-JP7946	W	20050420		

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB A semiconductor single crystal manufacturing apparatus capable of lowering the local deterioration of a wire under high temperature atmosphere in the furnace of a chamber, wherein a crucible (24) in which silicone melt solution (28) is filled is installed in the furnace of the chamber (22), a pull-chamber (23) is disposed above the chamber (22), and a seed holder (32) lifting between the inside of the pull-chamber (23) and the inside of the furnace is suspended by a wire (50) through a connection member (31). A collar (52) is fitted to the wire (50) so that, when the seed holder (32) is positioned to touch the melt, the exposed portion of the wire (50) near the tip thereof becomes a specified temperature or below under the high temperature atmosphere in the furnace.

AN 2005:341788 HCAPLUS
TI Semiconductor single crystal manufacturing apparatus
IN Umeki, Toshirou
PA Komatsu Denshi Kinzoku Kabushiki Kaisha, Japan
SO PCT Int. Appl.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005035839	A1	20050421	WO 2004-JP15050	20041013
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO,				

NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
 TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

JP 2005119891	A	20050512	JP 2003-353962	20031014
TW 261076	B	20060901	TW 2004-93130512	20041008
DE 112004001947	T5	20060824	DE 2004-112004001947	20041013
US 2007051303	A1	20070308	US 2006-575481	20060412
PRAI JP 2003-353962	A	20031014		
WO 2004-JP15050	W	20041013		

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
 AB Thermoelec. and magneto-thermoelec. properties of quantum wires
 of bismuth doped with Te were investigated at electron topol. transitions
 (ETT) induced by stretch in the temperature interval 4.2 - 300 K and magnetic
 fields up to 14 T. Single Bi, Bi<Te> wires were obtained by the
 liquid phase casting by the Ulitovsky method. They were single
 crystals of strictly cylindrical form in a glass cover
 with orientation <1011> along the wire axis. In thin
 wires of Bi doped with Te a number of anomalies were found out at
 ETT, of the type of formation of new Fermi surface cavity (T-hole) induced
 by extension. The "giant" oscillations of the thermopower in magnetic
 field and singularities in deformation curves of thermopower and
 resistance may be referred to these anomalies. In general they give
 evidence that the intervally scattering of carriers plays the significant
 role in wires of Bi and Te-doped Bi in the low temperature range.
 AN 2004:1075410 HCAPLUS
 DN 143:107393
 TI Giant quantum oscillations of the longitudinal magneto-thermopower at the
 electron topological transition induced by stretch of quantum
 wires of bismuth doped with Te
 AU Nikolaeva, A. A.; Gitsu, D. V.; Huber, T. E.; Konopko, L. A.; Para, Gh.
 CS Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau,
 2028, Moldova
 SO Physica Status Solidi C: Conferences and Critical Reviews (2004), 1(11),
 2654-2657
 CODEN: PSSCGL; ISSN: 1610-1634
 PB Wiley-VCH Verlag GmbH & Co. KGaA
 DT Journal
 LA English

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
 AB A device structure for single cell gap reflective and transfective liquid
 crystal displays (TF-LCDs). For an entirely reflective LCD, the imbedded
 wire-grid polarizer (WGP) serves as a polarization-dependent for
 the ambient light. For a transfective TF-LCD, the WGP only
 covers the reflective pixels. The disclosure also includes a
 method of using single cell gap liquid crystal
 displays (LCDs) without phase retardation films by providing a single cell
 gap LCD having reflective pixels and transmissive pixels, covering solely
 the reflective pixels, with at least one of: a wire grid
 polarizer and a broadband cholesteric reflector (BCR), reflecting ambient
 light off the reflective pixels; and passing back light through the
 transmissive pixels whereby the cell gap LCD obtains high contrast ratios
 without using phase retardation films.
 AN 2003:890830 HCAPLUS
 TI Reflective and transfective liquid crystal display using a wire

grid polarizer
IN Wu, Shin-Tson
PA University of Central Florida, USA
SO U.S. Pat. Appl. Publ.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003210369	A1	20031113	US 2003-428386	20030502
	US 6977702	B2	20051220		
	AU 2003234341	A1	20031111	AU 2003-234341	20030502
	WO 2003096111	A1	20031120	WO 2003-US13676	20030502
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CN 1678949	A	20051005	CN 2003-814999	20030502
PRAI	US 2002-378862P	P	20020507		
	WO 2003-US13676	W	20030502		

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB The invention relates to a semiconductor light-emitting device, suited for use as a light source in a page printer, comprising 1st conductivity layers island-wise formed on a single crystal substrate, and 2nd conductivity layers that partially cover the 1st conductivity layers, wherein the wire bondings connected to 1st and 2nd conductivity layers are grouped in several, resp., and joined to specific electrode pads formed along one edge of the substate.

AN 2001:488963 HCAPLUS
DN 135:84095
TI Semiconductor light-emitting device
IN Kishimoto, Tatsuya
PA Kyocera Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001185759	A	20010706	JP 1999-365524	19991222
PRAI	JP 1999-365524		19991222		

L7 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB A method for manufacturing quantum wires is provided in which a stacked structure having AlAs layers and GaAs layers alternatively is formed, V-grooves are formed beside the GaAs layers and the quantum wires are formed using the V-grooves. The method for manufacturing quantum wires, which method includes the following steps: growing a GaAs buffer layer on the facet (011) of a GaAs single crystal substrate; growing an AlAs layer for using an oxide mask and a GaAs layer for a V-groove alternatively on the GaAs buffer layer so that each GaAs layer is stacked between an AlAs layer and an adjacent AlAs layer; growing the cover layer of GaAs on the AlAs layer which

is grown as the top layer of the structure; cutting the entire structure including the GaAs cover layer to the perpendicular direction of (011), whose structure is grown in the orientation of (011) entirely, so as to expose the facet (100); performing a heat treatment for the entire structure cut to expose the facet (100) and forming oxide film on the exposed portion of each AlAs layer; etching each exposed GaAs layer chemical using the oxide as mask and forming V-groove so that the facet (111) of GaAs layer is exposed; and growing the quantum wire in the V-groove.

AN 2001:407990 HCAPLUS
DN 134:374986
TI Method for cheaply manufacturing quantum wires with nearly no defects
IN Kim, Sung Bock; Ro, Jeong Rae; Lee, El Hang
PA Electronics and Telecommunications Research Institute, S./Korea
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6242275	B1	20010605	US 1998-137617	19980821
PRAI	KR 1997-46100	A	19970908		
RE.CNT	5	THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD			
		ALL CITATIONS AVAILABLE IN THE RE FORMAT			

L7 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB A covering plate is arranged which closes and opens an entrance of a valve container between a lower chamber and an upper chamber, the lower chamber containing a crucible and the upper chamber containing a wire to pull a single crystal. The covering plate is contained in a circle-shaped space portion within a wall by closing and opening means. The covering plate closes the entrance so that an isolation valve is protected. Since at the time of opening the entrance the covering plate is contained within the wall without contacting with the wall, the fall of dusts produced by peeling off of a film deposited on the wall can be prevented. Also, the covering plate is contained in a circle-shaped space portion without exposing the front and back surfaces thereof to the air.

AN 1997:15242 HCAPLUS
DN 126:53144
TI Single crystal pulling apparatus
IN Iino, Eiichi; Takano, Kiyotaka; Kimura, Masanori; Yamagishi, Hirotooshi; Mizuishi, Koji
PA Shin-Etsu Handotai Company Limited, Japan
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 747514	A1	19961211	EP 1996-304265	19960607
	R: DE, FR, GB				
	JP 08337492	A	19961224	JP 1995-168164	19950610
	JP 2940439	B2	19990825		
	KR 214166	B1	19990802	KR 1996-19466	19960601
	US 5667588	A	19970916	US 1996-658275	19960605
PRAI	JP 1995-168164	A	19950610		

L7 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB The apparatus has (1) a pulling shaft which is divided to an upper and a lower shaft connected to each other by a wire there between, and a means to lift the lower shaft, or (2) an upper shaft installed at the

lower end of a weight sensor and a lower shaft installed on the upper end of a force bar (e.g., made from a C material) connected to each other by a wire, and a means to lift the force bar. A number of ceramic or stainless steel balls, or a guide collar from a C material may be placed between a guide shaft, which surrounds the upper and the lower shaft, the wire, and the force bar, and the force bar. A long crystal can be grown without increase of the total height of the apparatus

AN 1996:457854 HCAPLUS
DN 125:100869
TI Czochralski apparatus
IN Umeki, Toshiro
PA Komatsu Denshi Kinzoku KK, Japan; Komatsu Electric Metal Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08119790	A	19960514	JP 1994-276000	19941014
	JP 3526927	B2	20040517		
PRAI	JP 1994-276000		19941014		

L7 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB A metal rod for detector cooling reaching the outside of the outer surface of the cryostat main body is installed in the low-temperature stage of the cryostat which was cooled to ≤ 1 K, ≥ 2 layers of cooled radiation-shielding walls are installed to cover its surrounding, an outer wall for maintaining the vacuum of the cryostat is installed, a hole for the radiation to impinge from the outside of the cryostat to the tip of the cooling metal rod or a window made of a material which transmits the radiation and shield the radiation is formed at the radiation heat-shielding wall in the vicinity of the tip of the cooling metal rod, and a window made of a material which transmits the radiation is formed at the outer wall for maintaining the vacuum. A superconductive tunnel junction is used for the radiation detector in the cryostat and a superconductive coil for applying a magnetic field parallel to the junction surface of the detector is installed in the vicinity of the detector of the radiation heat shielding wall or the cooling rod. An anal. device with high sensitivity can be provided.

AN 1996:25249 HCAPLUS
DN 124:69525
TI Helium 3 cryostat for radiation detector and analytical device
IN Kurakado, Masahiko; Ikematsu, Yoichi
PA Shinnippon Seitetsu KK, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07253472	A	19951003	JP 1994-105786	19940519
PRAI	JP 1994-105786	A	19940519		
	JP 1994-6636		19940125		

L7 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The title process is characterized in that a sintered body or single crystal of elements constituting an oxide superconductor is placed in a metal (e.g., Ag or its alloy) tube, and drawn into a predeted. configuration. The superconductor may be of Y Ba Cu oxide with a perovskite structure. Optionally, the wire element is heated at 600-960° in an O-containing atmospheric. The wire elements have 900-100% filling rate, and are not likely to have cracks

after heating.

AN 1989:223991 HCAPLUS
DN 110:223991
TI Preparation of oxide-superconductor wire elements
IN Fukushima, Shin; Yoshino, Hisashi; Nibu, Hiromi
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63285812	A	19881122	JP 1987-120149	19870519
PRAI	JP 1987-120149		19870519		

L7 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The title method is characterized by: forming a micro-protrusion on a portion of the heater, covering the heater top surface by a molten material, and pulling with localizing the solidification position in the vicinity of the protrusion. Thus, a thin Pt wire 0.1-0.3 mm in diameter was welded to the top of a Pt coil heater to form a 0.2-0/mm-long protrusion. A material melted to cover the heater top with continuous feed of the material and a crystal was grown at 0.5-2 mm/min after seed-melt contact by pulling. A LiNbO3 crystal 100 μ m in diameter was easily grown.

AN 1988:14294 HCAPLUS
DN 108:14294
TI Growth of fibrous single-crystals
IN Onishi, Norio
PA Agency of Industrial Sciences and Technology, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62182188	A	19870810	JP 1986-24763	19860206
	JP 04019194	B	19920330		
PRAI	JP 1986-24763		19860206		

L7 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The title electrode assembly comprises a relatively short length of Sb rod secured at 1 end by soldering to 1 end of a conducting wire. The distal end of the rod is convex and substantially hemispherical, and has a polished surface approaching a single 1 plane crystal face. A relatively hard epoxy resin covers at least part of the length of the rod but leaves the distal end exposed and a flexible plastic tube surrounds the rod, the junction of the rod with the conducting wire, and at least part of the conducting wire, leaving the distal end of the rod exposed. The portion of the plastic tube adjacent the distal end of the rod is sealed around the rod to prevent contamination. When mounted in combination with a reference electrode, the distal end portion of the Sb electrode is mounted in 1 end of a length of tubing with the distal convex end of the rod exposed by an electrolyte-permeable plug. The tube contains a reference electrode and electrolyte and the other ends of the electrodes extend in a sealing relationship through the other end of the tubing. PH readings are not disturbed by the smooth surface, and the junction between the electrode and the wire has sufficient strength to permit the wire to be manipulated. This electrode may be used for esophageal pH monitoring.

AN 1987:488800 HCAPLUS

DN 107:88800
TI Antimony electrode assembly for pH measurement
IN Settler, Bert
PA Can.
SO Brit. UK Pat. Appl., 9 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2182446	A	19870513	GB 1986-23817	19861003
PRAI	CA 1985-494979	A	19851108		

L7 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB Fine crystals of phenakite or beryl floating on a molten salt are attached to a Pt wire, a Pt plate, or a beryl crystal 0.5-1 mm square, and then a beryl crystal is grown with a beryl seed crystal in a flux method. Thus, a flux melt was prepared from a 1:3 mixture of Al₂O₃ and BeO 70 and SiO₂ 100 g, and Cr₂O₃ 2 weight% with a 1:5:3 mixture of Li₂O, MoO₃, and V₂O₃ in 60 h at 1050° in a Pt crucible. After confirming growth with a check seed crystal, a wire net frame and a Pt plate were placed on a baffle in the crucible and left for 10 days. Then a beryl crystal was grown at 20 µm/day. No phenakite crystals were observed, and the amount of fine beryl crystals attached was decreased 20% from that in a conventional method.

AN 1987:41973 HCAPLUS
DN 106:41973
TI Beryl single crystal
IN Atomachi, Tadaaki; Takeuchi, Masaaki; Togawa, Eiji; Kasuga, Koji
PA Matsushima Kogyo K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61053199	A	19860317	JP 1984-173844	19840821
	JP 02024800	B	19900530		
PRAI	JP 1984-173844		19840821		

L7 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB A method of impurity diffusion comprises: (1) formation of an elec. conductive film (A) on a semiconductor substrate or a semiconductor film; (2) formation of a polycryst. alloy layer (B) between the semiconductor and A by a reaction of A with the semiconductor; (3) formation of an insulator to cover B or a polycryst. elec. conductive wire (C) which connects with B; (4) exposure of a portion of B or C by an opening in the insulator, and formation of an insulator which can transmit an impurity on the exposed portion in the opening; and (5) diffusion of the impurity from the opening to the semiconductor region which is in contact with B, through B or C. In the same process, after the exposure of a part of B or C, instead of the insulator which can transmit the impurity, an insulator which is doped with an impurity is formed to cover the exposed B or C and the impurity is diffused by heat treatment. Thus, a SiO₂ film 1000 Å thick was formed on a p-type single-crystal Si substrate and an opening 1 mm wide was formed. A Mo film 400 Å thick was deposited by sputtering. Si ions were injected at 100 keV to 5 + 10¹⁵ cm² in the opening. Heat treatment at 500° for 20 min formed a Mo silicide layer 1000 Å thick on the Si substrate, and the unreacted Mo film on the SiO₂ layer was removed. A SiO₂ film 6000 Å thick was formed by chemical vapor deposition, an opening several µm wide was photolithog. formed, and a

SiO₂ film 1000 Å thick was formed by chemical vapor deposition. A P diffusion layer 0.1 μm deep was produced in the semiconductor by diffusion through the Mo silicide layer at 950° for 30 min in an atmospheric containing POCl₃.

AN 1986:198274 HCAPLUS
DN 104:198274
TI Impurity diffusion into a semiconductor
IN Nagasawa, Eiji; Morimoto, Mitsutaka
PA NEC Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 60193330	A	19851001	JP 1984-49843	19840315
	JP 06056835	B	19940727		
PRAI	JP 1984-49843		19840315		

L7 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB The DT fusion n irradiation of 8 LLL Nb-1Zr tensile specimens, 11 BNL-LASL superconductor wires, one BPNL wire-foil packet, 2 ORNL MgO crystals, 4 LASL high purity single crystals, one each of spinel, YAG, Al₂O₃ and MgO, one LLL bicrystal of LiF and several LLL glass microscope cover slides is described. The sample position, beam-on time and dose record are given. The maximum n fluence on any sample was 2.51 + 10¹⁷ n/cm².

AN 1978:111882 HCAPLUS
DN 88:111882
OREF 88:17463a,17466a
TI DT fusion neutron irradiation of LLL Nb-1 Zr tensile specimens, BNL-LASL superconductor wires, BPNL wire-foil packet, ORNL magnesium oxide crystals, LASL spinel, YAG, aluminum oxide and magnesium oxide and LLL lithium fluoride and glass microscope cover slides
AU MacLean, S. C.
CS Lawrence Livermore Lab., Univ. California, Livermore, CA, USA
SO Report (1977), UCID-17467, 9 pp. Avail.: NTIS
From: Energy Res. Abstr. 1977, 2(20), Abstr. No. 50481
DT Report
LA English

L7 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN
AB The D-T fusion n irradiation is described of 8 LLL Nb-1Zr tensile specimens, 2 BPNL wire-foil packets, 11 BNL-LASL superconductor wires, 4 LASL high purity single crystals (1 each of YAG, spinel, Al₂O₃ and MgO), 7 LLL Suprasil and several LLL micro cover glasses. The sample position, beam-on time, and n dose record are given. The maximum n fluence on any sample was 4.68 + 10¹⁷ n/cm².

AN 1978:80593 HCAPLUS
DN 88:80593
OREF 88:12629a,12632a
TI DT fusion neutron irradiation of LLL Nb-1 Zr tensile specimens, BPNL wire-foil packets, BNL-LASL superconductor wires, LASL spinel, YAG, magnesium oxide and aluminum oxide and LLL silica-suprasil and micro-cover glasses
AU MacLean, S. C.
CS Lawrence Livermore Lab., Univ. California, Livermore, CA, USA
SO Report (1977), UCID-17472, 9 pp. Avail.: NTIS
From: Energy Res. Abstr. 1977, 2(20), Abstr. No. 50482
DT Report
LA English

L7 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB Crystalline bodies are grown from a melt by the edge-defined, film-fed growth technique in which is used a die having a horizontal end surface that is adapted to be wet by and is used to support a film of melt from which a crystal is to be pulled, as well as vertical passageways through which addnl. melt and a wire may be fed to the surface. Melt is supplied to at least one of the passageways and rises to the top end by capillary action. Then a film of melt is formed on the end surface so as to connect with the melt in the vertical passageway, and a single -crystal body is grown from the film of melt. The film is made to fully cover the end surface of the die, and the pulling rate of the growing body and the temperature of the film are controlled so that the body grows from the film along its entire horizontal expanse and around the wire. As the growing body is pulled away from the end surface, it draws the wire with it so that successively grown portions of the body surround successive portions of the wire. The resulting product is a monocryst. body surrounding and gripping an elongated wire. By using a small diameter wire and by removing the wire from the crystalline body after growth, it is possible to provide single-crystal capillary tubes. The single crystals may be grown from α -Al₂O₃, Ba titanate, Li niobate, and Y Al garnet. The wire may be Mo, W, Ir, or Rh.

AN 1974:8018 HCAPLUS

DN 80:8018

OREF 80:1325a,1328a

TI Growth of tubular crystalline bodies

IN Labelle, Harold E., Jr.; Bailey, John S.

PA Tyco Laboratories, Inc.

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 3765843	A	19731016	US 1971-158806	19710701
PRAI	US 1971-158806	A	19710701		

L7 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB A fluoride-sensitive electrode is fabricated by sealing high-purity, crystalline fluoride, to a plastic tube by means of epoxy or polyester resin or by mounting it on the stem by means of O-ring and an annular flange of a collar threaded on the stem. The tube contains reference electrolyte such as saturated solution of KCl, AgCl, and M F- and an internal reference electrode. The membrane can be prepared by growing single crystal slabs or by compressing powdered material under a pressure of 30,000-50,000 psi. at 500-50°. For continuous measurement of >1 ppm. F-, the sensing electrode and standard reference electrode are immersed in solution and connected to a voltmeter. Thus, BiF₃ was compacted to a thickness of 3 mm. at a pressure of 50,000 psi. and 500-50° and recompressed while still hot. The tablet is sealed over the end of poly(vinyl chloride) tube and internal contact was made by means of Bi amalgam. Pt wire is inserted into the amalgam as a lead. The response vs. a AgAgCl reference electrode is +307 mv. for 0 concentration of F- and +281 for 10⁻⁵ moles F-/l. OH- and PO₄³⁻ interfere while mono-H and di-H phosphate ions and <200 ppm. Cl- do not interfere.

AN 1969:83649 HCAPLUS

DN 70:83649

OREF 70:15634h,15635a

TI Fluoride-sensitive electrode

IN Frant, Martin S.

PA Orion Research, Inc.

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3431182	A	19690304	US 1966-525197	19660204
	CH 498393	A	19701031	CH 1967-498393	19670206
PRAI	US 1966-525197	A	19660204		

L7 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The crystalline material grows on the pos. electrode in a direct current arc discharge (including continuous, discontinuous, and spark discharge). The neg. electrode is composed of the desired element compound, possibly with added doping material. The current and electrode size controls the rate of deposition. A small neg. electrode gives a low rate of growth. For single crystals a tapered electrode is used so that the working diameter increases as the growth progresses, giving an increased rate of growth. The pos. electrode (consisting of the element or compound to be deposited, of e.g., C, which can be coated with a substance reacting with the required material, or of a seed crystal), where the deposition occurs, consists of a horizontal surface which is placed above or below the neg. electrode. The arc discharge can take place in a gas medium in which the partial pressure of the components may be regulated, with which the material of the neg. electrode combines to give the compound deposited. If the electrode conductivity is insufficient at ambient temperature, external heating may be provided, or the electrodes may be reduced to metal on the surface. Thus, a single crystal of NiO (m.p..apprx.2050°) was grown on the flat surface of a 1 cm. diameter pos. electrode of NiO vertically below a 1 cm. diameter rod of sintered NiO forming the neg. electrode. Before striking the arc, electrodes were heated to 1000° within a SiO₂ cylinder wound with Ni-Cr wire. A 1.5-cm. diameter NiO crystal of any required length grew in air at 1.5 cm./hr. at 12 amp. A current of 3 amp. gave a crystal with a diameter of .apprx.4 mm. and a current of 20 amp. a crystal with a diameter of .apprx.2 cm. A zone of molten NiO remained on top of the electrode, below which gradual crystn, took place. The crystal remained at high temperature for a long time, and the rate of cooling was normal so that stresses were avoided. Uniform distribution of special doping agents could be obtained, and to regulate the elec. conductivity of the NiO a suitable amount of Li₂O may be

added to the neg. electrode. For stability of the arc a servomechanism can be used to regulate the opening between the electrodes to keep the current constant. To cover an object with a crystalline layer, it is used as the pos. electrode, its position with respect to the neg. electrode and the time of exposure to the arc being regulated. A crystalline oxide may be deposited by uptake of O from the gas medium, or a nitride from a N atmospheric. The method is particularly suitable for crystal growth of refractory materials with m.p. .gtorsim.900°, e.g. Al₂O₃, Ba titanate, CaWO₄, Ce₂O₃, Cr₂O₃, Co ferrite, Cu, Ge, MgO, Mn oxide, Si, and SiC.

AN 1966:461519 HCAPLUS

DN 65:61519

OREF 65:11465b-e,11466a

TI Crystal or crystalline layer growth

SO 11 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 6512987		19660412	NL 1965-12987	19651007
PRAI	GB		19641008		

L7 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2008 ACS on STN

AB The effect of change in the number and distribution character of crystal lattice defects on decomposition kinetics was studied. The d. and distribution of dislocations in cast Mo are determined by the crystallization parameters such as

crystallization rate, temperature gradients, etc. By zone refining in electron beam

installations it is possible to obtain, at a zone movement rate of 4 mm./min., single crystals of Mo with high ductility at a relatively high level of interstitial impurities (C 0.01, O 0.0015%). Such a single crystal of 18 mm. diameter can be drawn, without intermediate heat treatment, at 200-300° into a 40 μ diameter wire or rolled into a 50- μ thick foil. The study of the crystal by optical and electron microscopy showed that it represents a single phase solid solution of the interstitial impurities in Mo. In cast Mo produced by arc melting the large temperature gradient during cooling and the high crystallization rate induce a high dislocation d. to form by slip, due to thermal stresses, a continuous network of polygonization boundaries. The decomposition of solid solution in the ingots is localized on the

polygonization

boundaries as was shown by ¹⁴C radiography. The stresses arising thereby on the intercrystallite boundaries tend to sep. the crystals and are the cause of the brittleness of cast Mo. During the formation of the polygonization structure, some of the dislocations do not emerge on the boundary, but are anchored by the interdendrite regions, in which the content of interstitial impurities is high, forming there dislocation clusters. During cooling of the ingot, deposits of the 2nd phase decorate these clusters. During heating of a Mo single crystal deformed by 80% up to temps. at which the interstitial impurities diffuse, the segregation of the latter occurs on the dislocation clusters. This is manifested by the appearance of satellite lines on the x-ray patterns. The zones of impurity segregation can also be observed in the electron microscope. To follow the changes of microstructure with heat treatment, polished sections were heat treated at 10⁻⁵ torr in a Nb beaker, which served as a getter. After heat treatment $\leq 1000^\circ$, the surface of zone-refined Mo remains monophasic; disperse sepns. of the 2nd phase appear at 1100°. The sepns. acquire a regular form at 1800-2000°. The polygonization network covers the whole surface after treatment at 2100-2200°. The temperature of the beginning of the decomposition of the solid solution on the surface of deformed single crystals coincides with the inflection point on the curve of relative elongation of the wire plotted vs. the heat-treatment temperature. The decomposition of the solid solution in alloy

VM1 begins

at 1400-1500° and the temperature of recrystn. brittleness coincides with it. In the aging of Mo the formation of large, coagulated sepns. of the 2nd phase affects the ductility of the metal in a 2-fold manner. On one hand, the increase of the distance between impurity particles, enhances the dislocation mobility and ductility; on the other hand, the possibility of localized brittle fracture is enhanced by the formation in the 2nd phase sepns. of submicrocracks which leads to decreased ductility. The combined effect is responsible for the relatively small change of Mo ductility during annealing.

AN 1966:91601 HCAPLUS

DN 64:91601

OREF 64:17178f-h, 17179a-c

TI Some data of the decomposition kinetics of solid solutions of interstitial impurities in cast molybdenum

AU Mal'tsev, M. V.; Shulepov, V. I.; Britnev, G. P.; Zhdannikova, V. N.; Damnelyan, T. A.; Popova, Yu. S.; Fedotov, Z. I.; Sheinberg, B. N.

SO Mekhanizm Plast. Deformatsii Metal., Akad. Nauk Ukr. SSR., Resp. Mezhdvedomst. Sb. (1965) 83-95

DT Journal

LA Russian

=> d his

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FILE 'HCAPLUS' ENTERED AT 14:47:10 ON 02 JAN 2008

FILE 'HCAPLUS' ENTERED AT 14:47:36 ON 02 JAN 2008

L1	2445	S	(CZ OR CZOCHRALSKI) (8A) (APPARATUS? OR MECHANISM# OR DEVICE# O
L2	279968	S	(SINGLE(4A)CRYSTAL? OR MONO(4A)CRYSTAL?)
L3	188441	S	(WIRE# OR PULL?(2W)WIRE#)
L4	199166	S	(COLLAR# OR COVER# OR BAFFLE#)
L5	836015	S	(PLURAL? OR MULTIP?)
L6	0	S	L2 AND L3 AND L4 AND L5
L7	28	S	L2 AND L3 AND L4
L8	3	S	L1 AND L7

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Date: 1/2/2008

Time: 14:28:30

 PALM INTRANET

Inventor Name Search Result

Your Search was:

Last Name = UMEKI

First Name = TOSHIROU

Application#	Patent#	Status	Date Filed	Title	Inventor Name
10575481	Not Issued	30	04/12/2006	Semiconductor single crystal manufacturing apparatus	UMEKI, TOSHIROU

Inventor Search Completed: No Records to Display.

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